

# Theme Paper on Productivity in Paper Industry

\*AGARWAL R.P., Sr. Vice-President, \*KHANDELWAL D.P., G.M. (Corporate Planning)

Generally defined, productivity is the relationship between the output produced and the inputs consumed. By implication, it means optimum utilisation of the input resources that go into production. Only efficient and effective use of all input resources would give output ratios that can be termed as high productivity.

Traditionally, productivity is concentrated on the physical aspects of input-output ratios: in terms of units produced per unit of time, units of input materials consumed per unit of production, etc. These are vitally important. What is equally important, however, is the creation of productivity at the design stage itself.

A proper layout that takes into account scientific movement systems, both for workmen and materials, location of various plants within the factory, their inter-relationship, ease of communication, maintenance facilities, the concept of energy centre, location of dust or pollution generating equipments, location of facilities like workers' rest shelters, canteen, etc., and above all the aesthetics of the whole layout has a major role to play in creating productivity. Since layout changes are difficult and expensive, care and concern shown in the initial stages can either lead to high productivity or become a permanent bottleneck to its achievement,

Secondly, the choice of technology, is of critical importance. A wrong choice even if cheaper, in capital cost terms, is likely to prove most expensive. When technology obsolescence is so rapid and costs are escalating so fast, a wise choice that balances investment costs and revenue costs is the key to survival.

Thirdly, the quality of hardware i.e. plant & machinery would, to a large extent, determine the effectiveness of the technology and therefore the choice of plant and machinery suppliers assumes great significance. Good quality equipment, badly erected could become a source of permanent headache, if not heart-break and could lead to perpetual loss of productivity.

Fourth, and most important, is the quality of the

people within the organisation. It is the people who will manage the sophistication of technology, changing and widening markets, motivate people and get the best out of them, manage complexities of infrastructure, communicate effectively with various governmental, environmental and trade bodies to bring about an awareness of the genuine problems, for a timely and effective policy change. And in general create an atmosphere of all-round trust, dynamism and an all pervasive productivity culture to which the entire work force is steadfastly committed.

Another connected aspect of this important management function is the key role that can be played by what may be called 'Productivity of the Mind'. Ideas, innovations that improve productivity of time, people and physical resources. This would result only if an organisation provides an atmosphere in which ideas are welcome, notwithstanding the status of the person contributing it.

Obsolescence not only of technology, but also of management, particularly top management, assumes critical importance in fast changing environment. The need to overcome obsolescence effectively and promptly is the challenge faced by the Management today. How well they overcome this challenge will determine whether the enterprise will remain productive or will perish.

Paper industry is a highly capital intensive industry, Productivity is an obvious answer to meet high capital cost. All-round cost effectiveness, high plant utilisation and superior product quality, therefore, are the landmarks for the survival in a capital intensive industry.

Amongst the developing countries even, India has the lowest per capita consumption of paper. The envisaged faster economic development offers great opportunities for growth in the industry in diversified product range, of-course with highly demanding

customer for quality and price. Presently, despite very low capacity utilisation, the industry meets the present demand, which gives a false impression of self-sufficiency and insurance for future. In fact there are symptoms of incipient sickness in the industry. The industry is beset with following major problems :

1. Serious shortage of forest based cellulosic raw materials.
2. Technological obsolescence and cost inefficiencies in every aspect viz. utilisation of raw materials, chemicals, energy and people.
3. Uneconomic plant capacities.
4. Shortage of skilled and trained manpower, both technical and managerial.
5. Shortage of power and coal; continued deterioration in quality of coal.
6. High cost of inputs particularly raw materials, chemicals, power and coal.
7. Compliance to requirements of pollution and ecology in fast changing environment.
8. Market stagnation: increasing customer demand for quality with resistance to upward price adjustments.
9. Image of the industry.

#### **Conservation, regeneration and conversion of scarce resources**

The compulsive aspect of productivity is the two-fold aspect of conservation and regeneration of resources, particularly scarce raw materials and allied important aspect of their utilisation and efficient conversion into products. All of you are aware that the nation's natural forest wealth is dwindling rapidly and unrestrained exploitation is leading to serious ecological problems. The pace of regeneration is far short of requirement. For survival and growth of industry, regeneration of forests to obtain the required quality of fibre to an optimum level from per unit of land mass, is imperative. The existing bamboo forests will need to be rejuvenated through agro-forestry. Creation and use of alternative raw materials in the interim period until the forests mature

has to be optimised. Latest technologies have to be inducted to conserve utilisation of field stock during conversion.

Another resource of crucial importance is energy which has made a dramatic impact in the nation for some years. The paper industry traditionally consumes a great deal of energy and special efforts have to be made to obtain full economy in generation and to curb consumption while ensuring full availability and thus curtail its spiralling cost.

#### **Technological obsolescence**

Paper industry in India is more than 100 years old. Barring a few units, the technology as it stands installed now, is not cost efficient in terms of input-output ratios. The plant availability is far below the standard. The available time for production and output per unit of time available is far too low. As a result, the capacity utilisation is low, cost of production is high and quality of product is inconsistent. In the emerging competitive outlook modernisation and technological upgradation are crucial for survival. Technological obsolescence will remain the greatest impediment to productivity. There is no answer for resolution of problem of obsolescence which can be commonly applied to every unit.

#### **Responsiveness to consumer needs**

Productivity emerges out of the production of goods or services. True productivity of effort in producing these goods or services arises only when these are marketable, when these fulfil and are perceived to be fulfilling the users 'or consumers' needs. The spectrum of needs and application not only vary between different classes of users based on their individual circumstances, but the character of their needs is also subject to change from time to time. And if this phenomenon is enlarged to units producing and marketing more than a single product, as is the case with most of the paper units, the complexity of achieving, maintaining and improving productivity within industry would begin to manifest. Desired price adjustments without productivity will meet stiff resistance from the customer.

With acceleration of growth in economy, demands of product diversification have to be met by this

industry to ensure growth for itself and to arrest the market stagnation.

The industry has to preserve and protect this fragile nexus between productivity and marketability of its products, which has to be met primarily by manufacture of products of consistently superior quality, and to make them available to its customer at a price which is cost efficient to him. The problems are different and diverse. Technological obsolescence will need to be removed on an urgent basis in a planned manner.

### **The Human Factor**

The Japanese economic miracle is the supreme in the world of the productivity of the human resource. It is a story of their people in industry, working within an industrial culture that promotes the dignity of the human resource, their meticulous process of achieving as wide a consensus as possible to ensure the highest commitment through participation and work involvement, a work atmosphere that encourages positive attitudes towards work, absence and leisure, the single-minded pursuit of technical knowledge applied within their own ethnic value systems, fostering a spirit of enterprise and innovation unparalleled in the world. Paper industry is generally located into under-developed areas. An industrial environment conducive to the highest motivation at work needs to be provided taking into account the special needs of people living in a backward area. Best of human resource has therefore to be obtained under these comparatively adverse circumstances.

There has to be a total commitment to technology and technical knowledge and every employee has to be assisted to attain a command of the desired level of know-how and technical skills appropriate to his job. Innovation will need to be encouraged and job responsibilities continually rationalised and enlarged.

In addition, employee welfare, given the correct orientation and approach, can be converted into an inspiring source of human resource productivity.

### **Economy of Scale**

Smaller capacities deny induction of some of the latest technologies on economic basis. The capital output ratio gets seriously prejudiced on account of smaller size than warranted. Cost of inputs per unit of output and cost of maintenance, pollution control, etc. become prohibitive. Induction of appropriate technology is paramount to achieve productivity. Depending on process technology involved in different units this aspect will also need attention.

Physical achievement of high plant utilisation, capital productivity, product quality, human resource productivity, consumption and conversion efficiencies, energy productivity, maintenance and improvement of plant health and ensuring a pollution free environment, will depend on emergence of productivity culture in the industry. The nucleus will be the process through which achievements are made. The challenge therefore will devolve on the technologists and managers who will have to plan for and realise productivity.

Areas of common concern in the emerging outlook may warrant cooperation in industry to seek resolutions and stimulate growth of industry.

In this conference, Technologists and Managers from Paper Industry from every nook and corner of the country, have the privilege of participation of the Governments, Institutions and friends from abroad who are experts in their fields.

We hope that the deliberations during the two days will generate a pool of ideas which will give direction for the emergence of productivity as culture in Paper Industry, to meet the challenge of today and tomorrow successfully.